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EOS.

BY PROF. W. H. WYNN.

O Day! that wellest from a fiery fount,  
Far in the glowing bosom of the sun,  
Touched by thy ray on eager wing I mount,  
To where thy eldest morning was begun.

Not on a chariot of cloud I ride.  
No need of whit-emaned coursers of the sea;  
Nor couriers that the continents bestride  
Can fleet the azure distances to thee.

Long, long, thy mighty furnaces have  
burned,  
Time's records have no calender for thee,—  
Where the warm heart of Deity hath yearned,  
There all the glory of the stars must be.

My goal is but a globe of cosmic fire,  
Forever burning in the solar space,  
With modest wing 'tis meet that I aspire,  
But not too near pursue the reckless race.

O haunting secret! would that I could know  
Whence all thy fiery fountains take their  
rise,  
That round o'er worlds in myriad currents  
flow,  
And break in verdure on the barren skies.

Lone parent of a progeny of stars,  
Oft wandering far in zones of blood and  
pain!

Thou art at peace mid desolating wars,—  
Thou givest all and seekest not again.

Thy prototype, the Everlasting Love,  
Sun of my soul I plume myself to find,  
Not on earth nor in the skies above,  
But in the constellations of the mind.

There ever hangs an incandescent globe,  
Or blood-red, gleaming through the purple air;  
Within, and clothed with sunlight as a robe,  
I see my God and Angel standing there.  
Unless my recreant vision waxes dim,  
Through exhalations steaming from  
below,—  
O lift me up that I may gaze on Him,  
And all the rapture of His glory know.

## THE EVIL PRINCIPLE AS PERSON- IFIED BY THE POETS.

On the records of time, still linger the  
dark footprints of Evil. Nations crum-  
ble beneath its silent warfare; humanity  
bewails its dread presence, and authors  
immortal, hearing the sad cry, search for  
the mystic destroyer and leave upon the  
pages of literature a record of its deeds.

Chief among these writers are Milton,  
Goethe and Bunyan, each of whom has  
left on record his conception of a great  
accursed being, incessantly working in  
human affairs, whose function it is to  
produce evil.

First we have Milton's Satan; second  
Goethe's Mephistopheles; lastly Bun-  
yan's Apollyon. All are founded upon  
the Scriptural proposition of the exist-  
ence of some evil being who constantly  
does wrong. All are different in the man-

ner of doing evil; yet in each we observe lineaments of the same traditional being. All are creations of the imagination and are strictly literary performances.

The hero of *Paradise Lost* is the Fallen Angel of the Bible and is described by Milton as he may be supposed to have existed at that epoch of the creation, when he was yet warring with the Almighty, and as still undecided in regard to his own function.

Goethe, in his drama, represents the Spirit of Evil as he existed six thousand years later; no longer the Fallen Archangel capable of planning gigantic enterprises, but silently working in crowded cities and on the minds of individuals. While Apollyon of the Pilgrim's Progress, as represented by Bunyan, is a vivid conception of the Mediaeval archfiend as he then existed in the imagination of the people.

The grand masterpieces of Milton and Goethe, do not necessarily involve any theological discussion. Satan and Mephistopheles are poetical creations, intended to represent the great Spirit of Evil at different epochs.

The grandeur of *Paradise Lost* is in harmony with the imagination of the poet. Its hero is of stupendous size and undertakings, and performing astounding deeds. The greatest difficulty the poet encounters, is to be able to express modes and powers of action on the part of the Angels, as superhuman as the stature and appearance he has given them. But Milton is equal to the task, as is shown in the sixth book, where he describes the Angels tearing up mountains by the roots and flinging them upon each other. These Angels were not sub-

ject to gravitation, but were able to move in any direction at will. When they rebelled they were driven out of Heaven by pursuing fire; and then had the power of rising upward, flying from star to star, or bounding from planet to planet.

Let us study more closely the character of Milton's Satan. Before the creation of our world, there existed, according to Milton, a race of beings different from ourselves. These beings were Spirits—the inhabitants of Heaven. Among these Angels were degrees and differences. Some were grander and more sublime intelligences than the rest; among this vast angelic population, three or four individuals stood pre-eminent. These were the Archangels. One of these was Satan, who, after God, could feel conscious of being the greatest being in the Universe. But this Archangel fell. Rejoicing in his strength, striding through Heavens, gigantic in his conceptions, mighty in his deeds, Satan was the most active of God's Archangels.

His notion of God was grander, higher than that of any other Spirit. But when the Creator in the Assembly of Angels, intimated that he had anointed his only begotten Son King on the holy hill of Zion, the Archangel revolted and in his revolt, carried with him a third part of the Angels, among whom were his chief associates, Beelzebub, Moloch, Belial, and Mammon. These five formed a sort of clique in Heaven, giving the word to a whole multitude of inferior Angels.

So that in Satan's mind, was fostered a love of power; and he preferred having a third of the Angels in some dark howling region where he could rule over them, to the sovereignty of an Archangel in

the Golden City; as is shown when he says:

"To reign is worth ambition though in Hell: Better to reign in Hell than serve in Heaven."

He had made war against Michael and his Angels, and when all Heaven was in confusion, the Great Creator rode forth in his might and expelled the rebel host from Heaven. While they lay rolling in the fiery gulf beneath, Satan conceived a plan to start in search of Earth which it had been rumored in Heaven, was about to be created; and there to find sole delight in overthrowing the works of God, and in dragging down the new race of beings, which had been placed upon the Earth.

But who should undertake the perilous journey? Satan volunteered to go, and winging his way to the gate of Hell, "the infernal doors on their hinges grate harsh thunder," and Satan passes through spreads his broad wings for flight and toils on and on through Chaos to the new Universe.

A Lighting on the surface of the Earth the fallen spirit became immersed in gloomy thought. The Archangel stirred within him. On what a diabolical errand had he come. "Oh, had he not been made so high, should he ever have fallen so low?" But he put aside all noble thoughts, and assuming the form of a serpent, performed the deed which in every phase, was devil-like; and in performing it committed himself to a life of ignominious activity.

Such is the story of Satan as given by Milton.

Let us try to understand what Goethe meant by his Mephistopheles. Milton's Satan may be regarded as the ruined

Archangel deciding his future career, and forswearing all interest in other regions of the universe in order that he may more thoroughly impregnate this.

Mephistopheles is the same being after the trials of six thousand years. No longer possessing any of the qualities of the Archangel; smaller, ignobler, but sharper and cleverer than before.

Nowhere in the drama, is the contrast between this Spirit of Evil and the Archangels shown more forcibly than in the "Prologue in Heaven." The mighty hosts are assembled around the throne; the Archangels, Raphael, Gabriel, and Michael advance and sing the praise of the Creator, and proclaim all God's works to be still as glorious as when first created.

Suddenly, while all Heaven is thrilling to the harmony of that melodious chorus, another voice harsh, grating, breaks in upon the music of their song. Mephistopheles is the speaker. He has listened to the songs of the Archangels and when they finish he speaks:

"Excuse my plainness: I'm no hand at chaffing,

I can't talk fine though all around should scorn:

My pathos certainly would set thee laughing,

Hadst thou not laughter long ago forborne.  
Of suns and worlds deuce one word can I gabble;

I only know how men grow miserable.

The little god of Earth is still the same odd clay,

And is as old this hour, as on Creation day.

In this shameless voluble strain he continues until the Lord interrupts him. But in this speech Mephistopheles plainly exhibits his nature. We see in it a sneering sarcastic disposition, want of purpose, irrevocable devilishness. And this low

contemptible being is the ruined Archangel; but, oh, how changed!

For six thousand years he has walked in the path of evil which he planned for himself at the creation. He is now a dry, shrivelled, scoffing spirit. He is the impersonation of Evil in modern society.

Goethe's *Faust* is an illustration of his working in the history of an individual. The case selected is a noble one. Faust a man of lofty aspirations becomes disgusted with all human methods and longs to spill out his soul, so that the swift winds will mingle it with the everlasting spirit of the universe, that it may acquire the essence of knowledge.

To this great nature is linked Mephistopheles who strives to degrade him. He drags Faust hither and thither through scenes of misery and depravity. He has an amazing knowledge of all the ways in which evil can be perpetrated. Mephistopheles acts the devil all through; first toward Faust, by continually starting difficulties in his way. And with the murder of poor Margaret, is connected a series of acts which are fiendish in the extreme.

If he enters the cellar of Auerbach, it is only to set the miserable drunkards fighting; and wherever he goes, he carries with him the germ of Evil.

In everything he undertakes, he reveals his true character as a scoffing fiend.

We briefly will notice Apollyon. As described by Bunyan he has all the abhorrent physical features that were possessed by the leader of the infernal hosts in the Mediæval imagination. Bunyan, in his representation of him keeps up the idea of the lying and deceptive characteristics, which are represented in the

Scriptures by Christ's declaration that he is a liar and the father of lies; as is shown in his conversation with Christian.

He being unable to persuade Christian to return to the realm of Evil falls upon him and when at last he finds his deceptions of no avail, and being wounded, spread forth his dragon wings and sped away.

### NAPOLEON BONAPARTE.

ANNA L. NICHOLS.

Inscribed on history's many-hued pages are records which read like romances; stories of real life which far excel, in romantic interest and in marvelous adventure, the wildest flights of fancy. Heroes and heroines of fiction sink into insignificance when contrasted with many of the real actors of life. The great past is fairly aglow with illustrious names; names of the brave, the gifted, the beautiful and the good.

Shining out brilliantly on the roll of fame, dimming, by contrast with its luster all others is the name of the man whose remarkable genius swayed for a time all Europe—Napoleon Bonaparte.

Standing out in bold relief from his surroundings, he is the central figure of his time. At his coming monarchs tremble, statesmen stand powerless, and the common people, spellbound by his extraordinary personal magnetism, worship him even while, in order to satisfy his insatiable ambition, he tramples them under foot.

Though we may know that he was utterly devoid of principle, though we may penetrate the veil he so skillfully drew over his weaknesses and failings, and see revealed the petty meanness which

debased his character; though we may shudder at the reckless waste of human life through which his glory was achieved; yet, when we turn aside from all this and watch him calm and immovable, making and dethroning kings, humbling defiant powers, and filling all Europe with consternation, we forget all else. He becomes to us the personification of that element which humanity is ever ready to fall down and worship—*power*—and we join the throng of idolaters at his shrine. We may despise his weakness, yet we worship his strength. We may doubt and deny. We may make all allowance for exaggeration; yet, his greatness remains unchanged by time or opinion, it is one of history's facts.

Turn your attention for a moment to the condition of France at the opening of Napoleon's career. The French Revolution has subsided. France is weary with rowing against the tide. She has abolished her religion. She has defied customs which are the result of the slow crystalization of the thought and action of centuries. She has launched out boldly into a sea of Nihilism. But the people have been long accustomed to despotism and tyranny. They are utterly unskilled in the art of self government. And the bark which started out so triumphantly is soon cast up, wrecked and shattered on the shore of the great ocean of revolution, on which she has been tossing. The need of the hour creates the man, and now Napoleon Bonaparte stands ready to take the helm and guide the ship of state victoriously through storm and calm. Triumphant everywhere, he treads grandly the path of glory till he reaches the highest pinnacle of fame. He leads victorious armies

to ever grander victories. He forms alliances and breaks them at his will. He turns his attention to building up his country, and law, order and progress rein supreme. Again he flings down the gauntlet and Europe is once more the scene of carnage.

If we attempt to analyze his remarkable character, we find his most prominent trait, and that to which all else must bend, to be *ambition*. Love, friendship, principle, human life and happiness, all these are secondary matters and must be sacrificed whenever it may be necessary in order to gain a purpose. Of this fact no better illustration is needed than his cruel abandonment of Josephine, his wife. To her talents and her devotion he owed a large share of his success.

And so far as Napoleon Bonaparte ever allowed himself to love any human being, so far as he allowed himself to have any idol other than fame, he loved Josephine and she was that idol. But the time came when she was an obstacle to his plans. And, indifferent alike to her pleadings and those of his own heart, he executed that divorce which shall forever remain a blot upon his memory.

Utterly incapable, because of his own selfishness, of feeling true friendship for any one, he scoffs at it and believes it to be but a name. Knowing that he himself professes friendship only in order that some end may be gained, he believes that his only hope of retaining those who call themselves his friends is to make himself necessary to them and to their best interests. His own confession is, "Conquer has made me what I am, and conquest must maintain me."

And when he has once set his mind

upon making some conquest, it is wonderful how unimportant he considers all other things in comparison with this. Are the Alps impassable; "there shall be no Alps." Are his prisoners an encumbrance; let them be shot down. Are the soldiers who have followed him so faithfully stricken with a dread disease, the most convenient plan is to poison them and at his word it is done.

Are thousands of homes made desolate by the ravages of war; war is his purpose and the results may be what they will. Could his plans have been accomplished without such waste of human life, he would have chosen the more merciful way. But when the shedding of the blood of the thousands of human beings became necessary in order that his end might be gained, not a breath of hesitation hindered his merciless slaughter.

He was not cruel for the sake of enjoying human misery. He was simply "as remorseless as fate." He recognized no law superior to his will. Firmly believing that fate had destined him to become the world's conqueror, he thought himself justified in performing any act by which his success might be insured. And he generally succeeded in impressing those with whom he came in contact, with the same view.

Napoleon had the rare power of seeing just what was needed in order to make his deeds appear in a favorable light before the world. And when he did not himself possess the requisite ones, he immediately adopted the achievements of some other man and so skillfully adjusted the matter that they appeared his own. Herein lies what has been called his egotism. It was not that he really wished to deprive others of the honor

due to them, but his ambition made it necessary for him to appropriate it to himself; and ambition ruled his life.

A man in regard to whom the most opposite opinions have been held, he seems to justify them all. He bore the unmistakable stamp of genius and yet nothing too severe can be said of his faults.

The very fact of his remarkable power is sufficient to account for the various and conflicting opinions in regard to his character and achievements. Though for a time his career was one of unsurpassed brilliancy, yet as his life neared its close, the cloak of glory with which he had so long covered his weakness and failings fell from him, and his most ardent admirer is glad to draw a veil over those last sad days on St. Helena.

Chafing like an imprisoned animal, reproaching destiny for his failure to conquer Europe, a victim to melancholy and disease, the once haughty monarch spends the weary days, till at last death sets free the proud but broken spirit and it passes beyond. He is dead. Breathe freely once more, Oh rulers of the civilized world! He whose power you so long dreaded, at whose coming you so often trembled, shall terrify you no more.

And you, O beautiful fickle France, with whose destiny that of the great conqueror was so closely linked! Do you laugh or weep when, over the waves, came to you the tidings that he is no more? When, in the zenith of his power, he led your armies on to glorious victory you fell at his feet and gave him your fullest adoration. But when reverses came his glory no longer blinded your eyes. You turned from him; you left him in the hour of defeat. Ay, you rejoiced over his down fall.

England, to whose power he bowed at last; France, next to himself the object of his ambition, Nations who helped achieve his ruin, remember, in this final hour, only the unparalleled greatness of the departed. Let all the world bring a tribute to the memory of the man whose remarkable influence was the chief factor in the overthrow of despotism in Europe.

And so long as mankind shall be interested in the deeds of past generations, one of the most brilliant pages in history shall be the one on which is recorded the career of Napoleon Bonaparte.

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### CULTURE.

NORMA HAINER.

To-day the watchword of ambition is culture. Whilst the nation is seeking after wealth and power, culture gives the key to success. Culture cannot begin too early. Man born into the world in ignorance is impelled by imperious instinct to know. He ascends the mountain of knowledge, rugged, precipitous; he climbs with difficulty from crag to crag. On the highest peak he observes *not* the barren boundaries of a universe, but an ocean of knowledge; a Pacific of truth stretching on and on into the depths of eternity. After the obversation, nothing is left, but a determination, to conquer all obstacles which may arise before him, and be a master of his own ideas. Upon culture depends the progress of society. Society has ever been appealing to man, for a higher mental and moral development. Culture *does not* bring man down to inferior classes: it does not claim to win for this or that sect with its ever ready watchword; but it does claim to do away with

sects, to make all live in an atmosphere, that is free from all taint; an atmosphere of love and peace.

It should therefore, be the ambition of every one to be nourished by this grand and noble social tie—culture. Culture is that which elevates mankind; which raises him to a higher *level*; places him among his equals; scatters knowledge of truth and wisdom throughout the length and breadth of the universe. Culture does more than this, it overthrows the shackles of despotism; it tramples upon superstition; spurns prejudices, which arise from ignorance. Culture unites the Orient and Occident with the holy bond of truth. The ancient philosophers, held the theory that it was degrading to seek useful knowledge; degrading to practise useful arts; hence they chose intellectual gymnastics as a means to acquire mental discipline. This they chose *not* for the information that they could gather; but the excitement which it would produce. Under these conditions mental powers was wasted; and as a result truths unsought were not to be found. Culture being ignored advancement of civilization was tending to a lower grade instead of climbing the ladder of fame and distinction. The motto of culture is “To render an intelligent being more intelligent.” Culture then being acknowledged to increase the intellectual horizon is daily seeking to devise new advancement; new ideas. In its search it sends out its bright rays of light to illuminate the paths of the people of God. O, culture how *grand* is thy work! How *noble* is thy mission. Upon thee we look for the advancement, of the social, moral, intellectual and religious



world. Wherever we find truly educated men, there we see culture, shining like a bright star, ever willing to cast a bright ray, aiding truth in bringing humanity into a closer relation; into a more nearly perfect social state.

We as Americans to-day are proud of our cultured men. Proud when we scan the pages of history, and note the wonderful progress wrought by cultured man. Proud when we see our Nation rising above all other Nations carrying the banner of peace, bearing the watchword of *Freedom*.

Culture at the present day is continually striving to bring nations together in a close union; to form lasting friendships. To form a fraternity of peace and good will among all mankind. O, what joy it is to be with a family joined together by the unity of one purpose, as if but one thought, one mind, and one heart. Let us cultivate a spirit of union and harmony. Let our thoughts be pure true, noble, and good. Let our object be to increase intellectually, the happiness of all mankind; to bring them nearer together. And may this Nation, be an exemplary one, upon which the whole world may gaze with admiration forever.

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## SCIENTIFIC.

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### WATER SUPPLY.

In looking over the different branches of engineering work, we have come to the conclusion that in no one branch is there a greater opening for engineering skill than in the one of water supply for cities and towns.

We are accustomed to say that water, as well as air, is free, and so far as the country or the small village is concerned

this is practically true, but wherever masses of individuals are congregated together, measures for the supply of good pure water must be taken. We say *must* because we recognize in water the agent for conveying nutriment to every part of the animal system; and for removing all soluble matter which has been once used and therefore no more. Again, we see that water is necessary to the healthfulness and cleanliness of a people. Each individual is no longer dependant on himself, to a certain extent is held responsible for the health and comfort of his neighbors. To have good water is important to both rich and poor. To the rich, because the influence of diseases once introduced into his dwelling, often spreads far and wide and is no respecter of persons. It is important to the poor man, for his health is his wealth.

Strict sanitary laws should be enforced by the nation; the health of her subjects demand it. In some districts we find community after community living in places where all the water used is not only replete with mineral impurities, also tainted with putrified organic matter, perhaps having drained through manure heaps and bone yards, or having washed the surrounding country and swamps of their decaying vegetation; and here we always find sickness and disease at their maximum.

Good pure water should not be made a question of money, for while we remain inactive, death and disease do not, and we are virtually fulfilling the lines of Burnes:

“Man’s inhumanity to man,

Makes countless thousands mourn.”

With these facts in view we see the

necessity of studying into the forms and manner of constructing different classes of water works, both ancient and modern. And in order to become more fully acquainted with this question of water supply, a very brief synopsis of some of the systems which have been used in times past will not be amiss. We have no doubt that man at one time supplied himself with water in the same manner that animals now do—by drinking with the mouth directly from some stream or pool. Perhaps as he grew wiser, he used his hand to convey the water from the stream to his mouth. However we shall not stop to speculate but will pass to the primitive well or what we believe to be such, for wells were in existence as long ago as we have any historical knowledge. The earliest we find, were nothing but mere holes scooped in moist places to catch and retain all water which might drain into them from the surrounding earth. From these simple cavities have grown, as fast as the limited means and knowledge of man would permit, the many wonderful and constantly flowing wells of which the present age can boast. As soon as the metals and manner of using them were discovered, rock and gravel no longer offered any impediment to the digging of wells; and some very ancient wells we find were dug entirely through rock and of a prodigious depth.

The storing of large quantities of water probably originated with the Egyptians who were also very ingenious in the manner of raising from wells and rivers the water used by them for irrigation and household purposes. Perhaps the most ancient aqueduct is one

supposed to have been built by the Romans, the remains of which may be seen for miles and miles stretching along like a huge snake near the site of the ancient city of Carthage. This conduit is made of masonry of a very good style, showing that the ancients were well versed in the art of making and using cement. Tunis is now supplied through this conduit from a spring which supplied the Carthaginians more than two thousand years ago.

From the remains of ancient aqueducts we can say that Greece was supplied with means of procuring water from a distance; and, indeed the great population of some of her cities would certainly require some system of water works other than that of local wells.

The following is a description as given by Humber of a masonry aqueduct discovered near Patera. "The ravine over which it passes is nearly 200 feet across at its widest and 250 feet in depth. \* \* \* The aqueduct consisted of a line of square stone blocks laid upon the top of a rough stone wall or embankment which crossed the valley from side to side—a passage for the stream being reserved by means of a rude archway. The stone blocks above mentioned were each about three feet cube, with a bore through the center about thirteen inches in diameter. On one end of each block was an angular projection which was received into a recess three inches deep in the adjoining stone. The joints were run with mortar and additionally secured by means of iron clamps run with lead." This work although excelled by some of our modern aqueducts shows that the ancients ap-

preciated the value of good pure water. The great amount of attention paid by the early Romans to baths and cleanliness made it necessary to secure water at whatever cost, and long before the Christian era we find water works in Rome of which Pliny says: "If a person were to consider the abundance of water conducted over arches of considerable extent, through Mountains perforated for the purpose, and even valleys filled up, he would be disposed to acknowledge that nothing in the world was ever more wonderful."

At a very early date Paris was supplied with water, under the patronage of religious bodies, from the hills of Romanville, Bruyeres and Melenmontant which was collected in a reservoir and conveyed to the city through leaden pipes. We have no evidence of this being a very good supply. As late as 1550 the citizens of Paris received a supply of only one quart of water per day. By means of much experimenting and considerable outlay of money, the city succeeded at the end of the seventeenth century in obtaining the small quantity of 1,800 cubic meters per day, or about five pints per head. Paris, owing to a number of causes, the revolution chief among the others, had a great deal of trouble in obtaining what may now be called a fair supply of water. In 1868 the average supply for the year (being more in summer than in winter) was 46,561-472 gallons or 24.6 gallons of unfiltered water per day, per capita.

The citizens of London in early times procured their water from the Thames and from springs and wells near the city. From John Stow's work published

in the reign of Queen Elizabeth, we learn that the first cistern in London, for public use, was built in the year 1235. It is not necessary for me to follow out the evolution of these works. It is sufficient to note that London is at present furnished with water by 8 companies which have a standing capital of nearly £13,000,000, and they bring the water from various places 30, 40 and 50 miles distant. I have briefly outlined some of the most noted water works of the past. Time and space will not permit me to give you the very briefest possible account of our modern works; it would require volumes to give anything like a detailed description of the water works in the United States alone. The one city of New York has over two and one half millions of feet of water pipes, while Chicago with her 500 miles of mains consumes annually 70,000,000 gallons of water.

Thus you may see how utterly impossible it would be to give in one essay a full treatise on this great branch of engineering; to show you the many changes produced by this wonderful civilizer—water—from the time when the savage lay down by the river's brink to slake his thirst to the long after period when some world renowned city, full of all luxury and art received *its* supply through artificial channels constructed with engineering skill and of a monumental durability than can only be overcome by the earthquake of man's ruthless violence.

GEO. R. CHATBURN.

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### MIMICRY IN ANIMALS.

Mimicry is the name given in Biology to those protective resemblances which

are seen in different species of the animal kingdom. As the nymph in the old classic myth to escape the Gods was transformed into a tree; and magicians in fairy tales take on in succession the forms of moss grown logs, stones or clouds to escape their enemies so we find not imaginary but real forms copied by different species of the animal kingdom, by means of which they are protected from their enemies or are able to procure their food.

Mimicry is found to some extent in all branches of the animal kingdom, sometimes in form and again in hue. It never effects any but the most external and noticeable parts of the organism there being in many instances no genetic relation between the species. This mimicry is generally found in those animals that have no other protection against their enemies and obeying the great law of self preservation seemingly sail under false colors. In a few there is found a mimicry of form of some harmless animal that it may deceive its prey.

At times the exquisite adaption of form or feather to the surroundings are part of the general harmony of nature, as is seen in the resemblance of different insects to leaves and twigs.

In Brazil is found one of the *Spectra* tribe *Phasma* that unless it was seen to move could scarcely be conceived, to be any thing else than a small branch with its spray. The legs as well as the head having their little snags and knobs.

The insect called the walking stick is another instance of the same kind. This is common in our woods and fence corners. The body is like a bit of twig with polished cylindrical nodes and in-

ternodes, from which start off the smaller twig like legs and antennae rendering the mimicry so complete that the observer is ever astonished to find it endowed with life and voluntary motion.

Many insects look so much like leaves as to even deceive the acute sense of the foraging ants and the naturalist, be he ever so keen an observer, is often times surprised and astonished.

A butterfly (*Kallima Paralikta*) is described as so nearly resembling a dead and faded leaf, clinging to a stalk as to almost certainly deceive the eye, even when gazing full upon it. The wings of the insect are exactly the color of a dead leaf and have lines of deeper shades, marking veins and midrib. It alights with the body parallel to the branch. In this position the tail forms a perfect stalk, and touching the twig seems to spring from it while the body is supported by the middle pair of legs which are unnoticed, amid the plant fibres and small twigs about it. A little notch hollowed out, just at the base of the twigs, allows the head and antennae to be sufficiently withdrawn to be quite concealed.

Sparrman says, that once when sheltering himself from the midday sun when the air was so still and calm as hardly to shake an aspen leaf, he saw what he mistook for a little withered crumpled leaf eaten as it were by caterpillars, fluttering from a tree. The motion seemed so extraordinary that he went nearer to examine it and found it was a living insect resembling a fragment of a withered leaf; the edges turned up and apparently eaten away and at the same time was all over beset with prickles.

Not only are there twig and leaf like

insects but flowers are equally imitated. An Indian *Mantis* has been found which had its head and fangs moulded into the deceptive appearance of an orchid so that small flies were actually attracted, in search of honey, into its very jaws. Many showy little tropical spiders double themselves up at the base of leaf stalks so as to resemble flower buds and thus delude the flies on which they prey; and a lizard of Nicaragua looks like the herbage by which it is surrounded and decked with leaf like expansions which hide its predaceous nature it finds many deluded beetles or butterflies on which it feeds. In a species of *Orthoptera*, from the Cape of Good Hope, the elytra are a rose or a pink color, which gives it much the appearance of a fine flower. A brilliant beetle, of the genus *Chlamys*, found in Brazil has a ruby colored surface which causes in it a striking resemblance to some kinds of fruits; and to make the series complete a minute black beetle (*Onthophilus sulcatus*), with ridges upon its elytra when lying without motion is very like the seed of an umbelliferous plant. Some beetles fold themselves up resembling pebbles. Among crustaceans a species of wood louse (*Armidillo vulgaris*), when alarmed rolls itself into a little ball which is perfectly spherical, black, shining and belted with narrow white bands resembling beautiful beads.

One of the commonest mimics in this part of the world is that of the moth, *Deilephila*, popularly called humbug. As it darts from flower to flower with an exact imitation of the habits and motions of the humming bird it is often mistaken for it and can scarcely be distinguished until captured, as we have all

doubtless proven by experiment.

Some flies *Diptera*, resemble bees in appearance and by producing a buzzing sound increase the deception. Among others, one of the most interesting cases is that of a certain two winged fly which mimics wasps and bees. This resemblance is some times used only as a protection for the fly but there are also a number of parasitic flies whose larva feed upon the larvae of bees, as in the British genus *Volucella*, and these by means of their mimicry enter the nests or hives to deposit their eggs without being detected. In every country where such flies occur they resemble the native bees of that district. Similarly Mr. Bates found a species of *Mantis* in South America which imitated the white ant on which it fed. On the other hand the defenceless species itself may mimic its persecutor as several crickets, *Scaphura*, which resemble sand wasps and thus escape the depredation of these enemies. Another cricket from the Philippine Islands (*Condylodera tricondyloides*), so closely copies a tiger beetle that even Prof. Westwood, is said to have long retained it among that groupe in his cabinet.

Some times the resemblance exists only in certain members or parts of an animal and while it can scarcely be called mimicry yet exhibits singular and striking similarities to other species not at all related. Instances of this are seen in the shells of different groups of animals. We have the coiled shell in our common fresh water snail and in Gastrophots and gigantic Cephalopods of the Silurian age it is apparently the same. Among Protozoans under the microscope

we find perfect forms of both the coiled and spiral shells. Apparently perfect imitations of the bivalve shells of our fresh water clams are found in the Phyllo-pods of the class *Crustacea* and also in Brachiopods among the *Vermes*. These animals, if classed from their outward resemblances, would be grouped together but are, according to all fundamental characters, widely apart.

These cases are but a small part of all that have hitherto been observed and described. In the insect world they amount altogether to many hundreds and many instances are given in other branches of the animal kingdom. Whatever the mimicry the animal as a rule seems to be unconscious that it is thus protected while others are seemingly aware of the disguises worn.

The reason, generally admitted for the mimicry of the different species, is comprehended in the law of the survival of the fittest. Those individuals only surviving, which by their disguises, escaped the detection of their enemies and by the general law of evolution more perfect forms have arisen, as the poorer imitations fall victims to the foe.

FANNIE R. WILSON.

—Our Library is in receipt of twenty volumes of Agr'l. Reports, donated by L. T. Daniels. We are glad to see citizens of the State manifest their interest by thus making voluntary contributions to the Library of this (Iowa's) great center of industrial learning.

—The yearly attack of scarlet fever has been safely repelled; but we may with all degree of certainty expect to see this *blushing* epidemic again "bob up serenely."

# THE AURORA,

PUBLISHED MONTHLY BY THE  
LITERARY SOCIETIES  
OF THE  
Iowa State Agricultural College.

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"THE AURORA."  
AMES, IOWA.

THE circumstances under which the present management assumed control of the AURORA did not tend to lighten the journalistic burden, already too heavy; and although it was nearly a month after the time for the appearance of the first number before we were elected, and have since been obliged through the slowness and general tardiness of the printer to come out behind hand each time, the full number of AURORAS will be issued this term. While we recognize the fact that an item or article reads much better if it appears in print

the same month it is written, yet for the above reasons it has not been possible to have it thus. The copy for the June number is now in the printer's hands, and, unless something unforeseen occurs, it will be out by the 25th.

DECORATION DAY has come and gone, with its tears and flowers, its long processions, civic and martial, with its sad remembrances, its tender and heart-felt tributes to our honored dead. These have had their place, the day has passed; and as the strains of music and thunder of salutes die away we are left in the stillness that follows to reflect upon the meaning of this grand display, this seeming show of human pride and pomp.

First, and grandest of all, it means honor to those who gave their lives as willing sacrifices to their country, who gave their oath that "The Union must and shall be preserved," and sealed it with their blood. For them are all these tears, these flowers, these grand salutes. For them do these veterans fall into line, but not with as steady step and even tread as they did twenty years ago, for many of them are maimed and half-blinded now; for them do they fall into line and march down to their brother comrades' lowly camp, and, with uncovered heads, pay their tributes of love and honor. And a last tribute it is that many of them will pay; for they are getting old and human strength is not all-enduring. A few years and their place in the procession must give away to others, who will go with as willing steps and patriotic hearts to render them the tribute which they are now paying.

It is a sadly pleasing duty to come

with our dirges and flowers—kind remembrances for those who came not back when the "Boys came marching home." For those boys for whom we looked in vain—for husbands, fathers, brothers and friends, who went away, but came not back.

To many of the older ones it also means living over again some of the scenes of twenty years ago. We can see it in the face of the veteran as he takes his place in the ranks; we can read it in the glad faces of those who see in the procession some dear one who was spared to them, or in the sad faces of those who are thinking of some loved one who was not spared, came not back. And it is well to keep in remembrance the fearful price that had to be paid before our land could be united and free, a price unmeasured and unmeasurable, not to be estimated by the standards known to men.

The day was most rightly and wisely set apart for a National Holiday. There is nothing that brings to us a more reverent memory of the dead, nothing that tells us more of their brave deeds and sacrifices. No man commands more respect, no man should command more respect, than a soldier, one who has willingly offered his life for others—for his country. All honor be then to the brave soldiers, those who are living and those who are dead—to each an equal share alike is due, and may we never in the rush of time, while we have a country that we can call our own, forget the debt of love and gratitude we owe to those who,

"———with work well done,

Sleep the sleep that knows no waking,"  
till the Grand Bugler shall sound the  
"Fall In" of eternity.

OUR present curriculum, though quite complete and comprehensive, has need of a few changes and additions before the workings of our college can most fully conform with the spirit of the law under which it was organized. It is not our intention at present to fully discuss the subject or go into details, but will simply mention one or two of the more important needs.

First, there is need of a course of study for ladies, embracing the various branches generally included in such a course. The special need of this is made apparent by a consideration of the rapid decrease in the number of lady students entering the college within the past few years; and for this decrease there can be but one explanation, viz: We have not the course of study they desire to pursue, and hence have gone where such a course can be had. Let the present committee on course of study consider this matter, and at an early date take active measures toward giving such a course of study a place in the curriculum.

Second, the institution of a chair of elocution. The necessity of this is also apparent, and especially so about this time when junior exhibition speakers begin to drill. All such speakers are forced to do one of three things, put up with such instructions as can be furnished by older students, go without, or hire a teacher to come and give them private lessons, at an expense which should be borne by the State. The injustice of this can readily be seen, and we think it rather strange that in a college of the rank of the I. A. C., so important a study as elocution has been so long omitted.

COLLEGE DISCIPLINE is one of the most delicate and at the same time difficult duties devolving upon a college faculty. There are certain features about it which are disagreeable even to the most rigid or crabbed professor in our land.

In most universities, proper, and colleges, control over students by faculties is at its minimum, while in public schools, where the teacher to a great extent takes the place of the parent, control over pupils is at its maximum. We think the time has passed when students in colleges can be treated as pupils in public schools, and we do not believe the time has yet come when students can be placed entirely on their honor, although this is practiced, and quite successfully, too, in many of our leading colleges. The question then arises just how far may control be exercised over students and how far may they be placed on their honor, and the settlement of this question is occupying the attention of many college governments to-day.

While we have no doubt but there are laws in vogue in nearly every college in the United States which are as useless and destitute of common sense as some in force at our college at present, such as, for instance, the law best known as the "Timber Law," the "20-Foot Law," etc., yet they are laws, and experience will prove that they had better be kept than broken.

THE most enjoyable event in the history of the junior class was the reception tendered it by our honored President, June 6th. At the appointed hour the guests to the number of about sixty be- took themselves to his residence where



they were received by the President, and Mrs. Knapp and their daughter Miss Minnie, in their hearty and cordial manner.

The parlors were thrown open and soon a happy throng of Juniors filled the house to overflowing. The grounds were beautifully illuminated and presented a most enchanting appearance. After spending a couple of hours in chatting, grinding at the Miller's mill, swinging in hammocks, etc., refreshments were announced. At the ringing of the ten o'clock bell, the guests departed, bearing with them remembrances of the most enjoyable evening ever spent at the I. A. C.

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#### THE AURORA WOULD LIKE TO SEE

Better decorum in chapel on all occasions.

Some of the Junior boys do more studying and less going down town.

The man who has not asked "When will the AURORA be out?"

A certain Brown Junior more careful of borrowed white hats when down town on an evening's call.

The man, whose wax subject to the immutable laws of gravitation, sought a lower position, braced up and gone to the Junior picnic with some other girl.

The "Timber Law" repealed and a "Law for the prevention of cruelty to animals" substituted in lieu thereof.

Every student in the college who can read step up and subscribe for it.

The students\* who were chasing around over the lawn last Tuesday night learn the difference between *fun* and *rowdy conduct*.

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\*So called through courtesy.

A man who enjoyed himself more at the Junior reception, than L. D. Jackson.

The "Twenty-Foot" law enforced to the fullest extent.

The subscription price of the AURORA raised to \$1.50.

Those fellows who smoke at Kirkwood Hall, buy their "Old Judge" instead of borrowing at room No. 13.

The looks of disgust and foolishness which overspread the countenances of a certain Junior and well-known alumnus when the broom brigade at Boone "broke ranks" and "fell in" all in the same thirty-nine seconds.

Some of its exchanges exhibit more enterprise and life.

Various other things come to pass which are for the welfare and happiness of the human race in general, and I. A. C. students in particular.

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#### PERSONAL.

Miss Pierson's mother paid the institution a short visit during the early part of the month.

Joe has been obliged to go where the "woodbine twineth" on the account of ill health. After a ten day sojourn he has returned with much more of Addie Poe's look in his face.

Fred Huntley went home to see the folks and enjoy a few days furlough.

Will Briggs has gone home for a few days visit. We'll tell in the next AURORA his object.

Mr. Fred Roddewig and Frank Stunenberg have both left school. The former goes home to work for his father who is sick, the latter is engaged in a printing office at Des Moines.

Lee Champion and T. A. Noble of class '84 are both working in Des Moines. Champ. is employed in the *Homestead* office while T. A. practices heavy gymnastics in his father's machine shop.

Miss Florence McDonald, Asst. Principal of Des Moines high schools, spent the closing scenes of May with her many friends at the I. A. C. She is now enjoying her summer vacation.

Arthur Furgeson spent a few days with his parents at Glidden basking in the light of Dulce Domum.

Mr. VanCampen who entered with class '84, dropped in to see if all was well. He is employed in a mercantile house at Farmville, Calhoun Co.

Mr. Kelley, of class '86, has permanently severed his connection with the college. In Mr. Kelly the Sophomore class loses one of its brightest members and a true man.

Prof. Budd is still suffering from the effects of a fall from his carriage. We sincerely hope that however great was the fall thereof the speedy recovery will counteract it all.

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## LOCAL.

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—BLAINE.

—May.

—May Flowers.

—Two Flies.

—Campus extended.

—Does the Faculty meet?

—Were you called down?

—Who went to Boone?

—College Farm Glee Club.

—What spiked the cannon?

—Of what do the band suits remind you?

—Do you take Elocution?

—O a wonderful stream is Tommy Run.

—Prepare for the "Returning Board."

—Jas. A. Garfield broom brigade.

—Junior's picnic in one or two respects resembles the Nipmucks classic break in '83.

The man of might is the man of Maine,  
The man to lead us is Jas. G. Blaine.

—Rink rolling stock 50 per cent. below par. They should establish a sliding scale.

—Campus extended. If it keeps growing the Timber Law will have to be repealed.

—Soph. lady—after gazing intently on the yawning gulf before her, remarks: "Why A—y what a funny mouth you've got. I see now why you joined the Crescent Society.

—The elocutionist asked if it hurt to be bald headed? One of our bald friends said: Why bless your soul! no. When I was small I always ba(w)ld to ease the hurt."

—A correct comparison of the President's list and that of Miss Sinclair would have revealed the fact that Chat. was foreordained not to go to Boone.

—The young lady who placed her feet out of the window one evening got them slightly dampened by the Freshmen overseers.

—Sophomore girls are allowed to take our *little* Senior boy with them when they go Botanizing, to climb trees and wade the creeks for them.

—A Senior lady wants to know “why the bell-wringer is getting so extravagant?” We don’t know, except it is because he is allowing everything to go to wa(i)st(e.)

—During the past month on several occasions, it would have been much more convenient for the boys if the Faculty could have held its sessions in the afternoon; as in the evening—they had engagements at the rink.

—The Gymnasium Association has been reorganized. This was a much needed step. It has been plainly demonstrated that “Gym” cannot take care of himself, from the fact that he is now deeply involved.

—A Base Ball Association has been organized to give direction and control to our movements on the diamond. If there is one game to be recommended to young men for lusty and vigorous exercise, that one should be our “National Game.”

—For the first time in several years the arrogant Sophomores have been able to vanquish the irrepressible Freshmen. The game was interesting and started out with a flattering showing for the Freshmen, but it didn’t last, as the final score showed 30 to 17 in favor of the Sophs.

—Acting under the suggestion of one of our Professors, the Senior class challenged the Faculty to play a game of ball. With bated breath we have awaited an answer; but no answer cometh from the belted champions who laid in the dust the *diamond* aspirations of ’83. The question now submitted to the Faculty is “will you submit the belt without a struggle?”

—Theses writing is proving hard work this year. Nick blistered his hands at it the other day.

—Dr. Fairchild who sustained such serious injuries from his team taking fright, is now so well as to be able to attend to his class duties. We congratulate him on his speedy recovery.

—The Agricultural Society was surprised by the appearance of a weighty lunch basket in their hall. No need to tell you that they did it good old granger justice. Their thanks have gone forth to the donor and have undoubtedly found him by this time; while the boys can only infer.

—Miss Athearn’s musical recitation was a decided success, as have proven all her enterprises in that direction. This one in our judgment was the best we have had for several years. It brought out a good deal of musical talent heretofore generally unknown. The songs of our Glee Club were well appreciated features of the entertainment.

—When Capt. Abbott said “What would you think if the authorities here would want to examine your letters before you sent them home?” The response he received showed that in the light of passing events it would not be so strange.

—When out in the woods it would be well to beware of the decoyer of the finny tribe. Our C. E. Prof. having devoted all his time to studying angle will never give up angling till he catches something, if it be not a Teleost it will be a Homo.

—The President advises us to kill our neighbor’s birds rather than our *own*. Of course this principle will hold good

through next fall when spring chickens are ripe—when the festive student under executive license can wander to the laden roosts and relieve them of their fowl burden and then ere that bird crows he may deny it, *yea*, more than thrice.

—We had the pleasure of listening to an entertaining and instructive lecture given by Rev. Dungan, of Des Moines, on the "Science of Manhood." An incisive lucid presentation of the course to be taken and the paths to be avoided in obtaining that attribute of character, a manhood so often mentioned but really so seldom possessed. Through the speech ran a quaint vein of humor that added much to its effect.

—Capt. Abbot lectured on "My Prison Life." An interesting relation of his prison life and a portrayal of his sufferings. With mingled feelings of sympathy and pride our hearts go out to our country's heroes who were snatched from the mercy of the cannon's mouth and dragged to those Southern vaults of Hell for the living dead to languish, to starve and to die. We feel with them again the lance-like fangs of hunger and the smiting chill of winter's blast. We hear piteous appeals for mercy answered by the laugh of scorn; and we hear their insane shrieks resound to the bay of the pursuing hounds. We see them heroically overcome every hardship to conquer hunger and cold, to live or triumph over the last enemy and bear his torch through the unlighted cavern of the dead. We can see them when freed march to the martial strains that proclaim the triumph of their cause. But let us not forget though the victories of war are grand and glorious that those of

peace, are grander still "when brothers embrace on the warfield the reddest sword must win." But in peace the victory is not to him who most poignantly plies the dagger of hate, but to the heart who will not only forgive but forget, and though the experiences of war prisoners may be burnt deeply on their hearts they should make no special effort to transmit that hatred and enmity to the coming generation whose acts should bring about general amnesty, reconciliation and brotherly love. No, let us not only *forgive* but *forget*. Forgiveness is too often a mere labor of the lips, while to forget means the eternal exile of hatred from the soul.

The Veterinary students are beginning to fear that their profession is "made of hands and built on sands." Two Missionaries who have for their quest the extermination of all ailments that attack that type of brute nobility have from their camp-meeting in the vicinity of Ontario issued their manifesto to the effect that "School-trained Vets. are not entitled to the love and confidence of a patronizing public." A dialogue which occurred between one of them and a Vet. student was something like as follows:

Student—Are Scientific Veterinarians usually practical?

V. S. ?—I never caught one in that condition.

Student—What is your standing in your profession and what are your yearly profits?

V. S. ???—Why I've been to Des Moines on a consultation *tower* and since I've come to be so recognized and my reputation become so broad that I make at least \$300 a year.

Student—Is *Paniculus Carnosis* (simply name of a muscle) prevalent in this section?

V. S. ???—No, but there used to be a good deal in Injeanny.

Student—What is your treatment for “Sub-Maxillary” that seems to infect so many of our horses?

V. S. ????—Give each animal a quart nitre twice a day, and mix a pound of acid with a gallon of liniment and some oil and rub it on his back and withers.

Student—Would it not be well to add a little *aqui puri*?

V. S. ?????—Well yes, if it be a bad case you might put in some to make it a leetle stronger.

Student—How do you treat the “Sem-itendonosis?”

V. S. ?????—That used to be a common disease, but I never had any trouble curing it. “Garglin Ile” applied to the gums will cure that nine cases out of ten.

Before this array of wisdom our youthful Vet. of course retreated in awe, leaving the so-called V. S., a typical example of the many men of Iowa who are impositions on a profession under whose charge rests the great wealth of our State’s live stock. The Vet. quacks must go. They (meaning those who can read) recognize the writing on the wall and must go, and we look forward to a time when a Veterinary Surgeon in order to practice must show his diploma. Toward this end our Veterinary department is working nobly.

—Hermine Hainer is studying the practical chemistry of mental growth, and in the crucible of discipline she renders crystalline the plastic brain of West-side juveniles.

The Lecture Committee have been alive and stirring and have provided for a series of excellent entertainments. Season tickets have been furnished at reasonable rates. Now, while we all commend the action of the Lecture Committee for their enthusiastic performance of their duty, there is one fact patent to all, that is, that entertainments following so closely upon each other have seriously interfered with our society work. There is not a society in the institution that is not in a state of disorganization and characterized by a lack of enthusiasm on the part of the society as a whole and individual members. The reason is obvious. Continued interest in anything presupposes continued action, and so it is with the societies, lack of continued action has brought on disorganization and disinterestedness. We are asked what shall we do? Shall we dispense with lectures? No, for, they are one of our great sources of information and improvement. Shall we then dispense with our society work? Decidedly no. Of all the work in our course there is none we can look to with that lively interest that we can to the work performed in our sacred society halls. Now we ask why not have our lectures and other joint entertainments on Friday night—true Friday night is considered an evening for study, but we ask no startling question when we say “what student studies real hard Friday evening?” The student’s mind is just delivered from a hard week’s pressure, and to what will he naturally turn? Will he turn again to that strain from which Friday evening has relieved him? To what better instructive diversion could he turn his mind than a good entertaining

and instructive lecture? It would serve to keep the student within the building wall and find him in a condition and place him where he can prepare for Saturday evening's work, which is looked upon by Faculty and students as one of the essential drills of our college course.

## ALUMNI.

C. Vincent, of class '84, at Shenandoah Business College, where he occupies the chair of Mathematics and Geology, will be back at the college next term and will graduate with his class.

'83. We are glad to learn that Miss Effie Slater is now slowly recovering from an attack of sickness that was thought to threaten her life. She intends to take an Eastern trip this summer, which we hope will be both a pleasure and a path to permanent health.

'82. H. J. Gabel is engaged in general mercantile business at Arcadia, Carroll Co. He is a partner in the firm of Hoch & Gabel. H. J. always had a method of placing himself in the front rank, and Carroll Co. merchants have been forced to recognize that fact.

'83. M. J. Riggs is employed at Mankota, Kansas, drafting county maps. In the land of prohibition, M. J. found a situation fitly suited to his taste, and we may expect to see the sterile fields and wastes of barren, bleeding, drouthy western Kansas drawn off in symmetric county squares and pictured with swaying forests, waving fields of golden grain, all coursed by shining brooks that babble on their way before the

open doors of a happy, temperate people. There is nothing like looking on the bright side of things, especially when you want them to sell well.

'83. June Colelo is ruling with a rod of willow, the present course, and in wisdom's ways is shaping the future destinies of ambitious Carrollites.

'79. MARRIED.—At her home in Alden, May 5th, Miss Alice Whited to Mr. C. Burling, of Eldora.

'79. Fred. H. Friend is studying law at Iowa City.

'82. A. E. McDonald is engaged in the lumber business at Fairmont, Nebraska. He controls the whole lumber business in that lively growing town, and to any of its citizens anxious to build anything Ed will furnish them the material and in the meanwhile build up for himself a good business.

'82. W. D. Atkinson is studying law at — Kansas. We haven't learned that he will be ready to practice for the June Court.

'81. J. S. Dewell and Sam McGavern are partners in the law firm of Dewell & McGavern, Mo. Valley, Iowa. Though they have begun in the valley yet do we predict that they will not only ascend to the heights but will raise the Valley with them.

'83. Dr. C. H. Flynn has located at Decorah, this State, where he is building up a fine practice in Veterinary Surgery.

'80. MARRIED.—At Webster City, May—Mr. Wm. Welch to Miss Belle Ryerson, all of Ames.

The groom is son of our esteemed ex-President and a graduate of class '80. No cards.

## ALUMNI.

### OFFICERS.

- '74. O. P. McCray, President.  
 '72. E. W. Stanton, Secretary and Treasurer.  
 '72. John L. Stevens,  
 '73. D. A. Kent,  
 '74. C. D. Boardman,  
 '75. C. H. Lee.  
 '76. A. P. Barker,  
 '77. F. W. Booth,  
 '78. Emma McHenry,  
 '79. Alice Whited,  
 '80. Carrie C. Lane,  
 '81. R. J. Hopkins,  
 '82. C. F. Saylor, Vice Presidents.

## DIRECTORY.

### CLIOLIAN.

The Cliolian Literary Society is the only ladies' society of the I. A. C. This society holds literary sessions every Saturday evening. Its object is the improvement and culture of ladies in literary work. Visitors are cordially welcomed. Officers are as follows:

Fannie Wilson, President.  
 Anna Nichols, Vice President.  
 Lizzie Mahoney, Recording Secretary.  
 Beth Campbell, Corresponding Sec'y.  
 Edna Bell, Chaplain.  
 Lydia Schreckengast, Treasurer.  
 Grace Poyneer, Usher.  
 Hattie Koozer, Sergeant-at-Arms.

### PHILOMATHEAN.

The Philomathean Literary Society is a society admitting to membership both ladies and gentlemen. Its regular meetings are held each Saturday evening of college year. All are invited to attend literary session.

### LIST OF OFFICERS.

J. F. Porter, President.  
 C. J. Clark, Vice-President.  
 Fannie Carson Recording Secretary.  
 E. R. Yeisley, Corresponding Sec'y.  
 G. W. Knorr, Treasurer.  
 G. W. Greene, Librarian.  
 Annie McConnon, Chaplain.  
 Emma Porter, Usher.  
 L. D. Jackson, Sergeant-at-Arms.

### BACHELOR.

The Bachelor Society is the only exclusively gentlemen's society of this college. It was organized July 16, 1870. Its object is the mutual improvement of its members in Science, Literature, and Art of Speaking. It meets every Saturday evening at 7:30, in Bachelor Hall. Its officers are:


Alfred Williams, President.  
 A. S. Hitchcock, Vice-President.  
 H. C. Coe, Recording Secretary.  
 I. B. Schreckengast, Cor. Sec'y.  
 L. G. Brown, Treasurer.  
 F. Y. Lock, Chaplain.  
 G. S. Hicks, W. B. Hunter, Sergeants-at-Arms.

### CRESCENT.

This is a society admitting both ladies and gentlemen to membership. Its object is the improvement of its members in literary work and parliamentary law. Its sessions are held every Saturday evening in Crescent Hall, to which all are cordially invited.

### OFFICERS.

J. F. Armstrong, President.  
 K. Gardner, Vice-President.  
 N. Hainer, Recording Secretary.  
 M. Gambel, Corresponding Sec'y.  
 A. U. Quint, Treasurer.  
 Miss Forbes, Usher.  
 Miss Wagner, Sensor.

 Buyers of *Carpets and Curtains* will find it to their advantage to visit the SETH F. STEWART'S CARPET HOUSE, at 521 W. Leest St., Des Moines, Iowa. Anything you need for a window or floor is there. Best Goods. Price Guaranteed.